

**To:** Reed, Marissa[marissa\_reed@fws.gov]  
**From:** Schaller, Andrea  
**Sent:** Thur 3/30/2017 5:07:08 PM  
**Subject:** FW: DRAFT Interagency Review HGM

Forgot to copy you. Thanks again for looking at it so quickly

-----Original Message-----

From: Schaller, Andrea  
 Sent: Thursday, March 30, 2017 12:07 PM  
 To: 'DeLancey, George J CIV CELRL CELRD (US)' <George.J.Delancey@usace.army.mil>  
 Subject: RE: DRAFT Interagency Review HGM

George and Marissa,

We are working on incorporating a summary of the company's findings not sure if we will include a statement on maturation of the site since then. I except we there will be factual data that support it as trees do grow and over 10 years and would be likely reflected in measurements such as DBH. Those facts that feed the functional result.

Will copy you on the final version. Should go out today.

Thank you again for your professional and technical prospective and getting it to us so quickly.

Andrea

-----Original Message-----

From: DeLancey, George J CIV CELRL CELRD (US) [mailto:George.J.Delancey@usace.army.mil]  
 Sent: Wednesday, March 29, 2017 2:39 PM  
 To: Schaller, Andrea <schaller.andrea@epa.gov>  
 Subject: RE: DRAFT Interagency Review HGM

OK I've seen that one from WES?ERDC before. The other I don't think so. I'll look at them. Thanks

-----Original Message-----

From: Schaller, Andrea [mailto:schaller.andrea@epa.gov]  
 Sent: Wednesday, March 29, 2017 1:06 PM  
 To: DeLancey, George J CIV CELRL CELRD (US) <George.J.Delancey@usace.army.mil>  
 Subject: [Non-DoD Source] RE: DRAFT Interagency Review HGM

Will do. Let you know what I hear.

Here is the case study. Also found an annotated biology on bottomland hardwoods on disturbed sites. (still reading through it)

-----Original Message-----

From: DeLancey, George J CIV CELRL CELRD (US) [mailto:George.J.Delancey@usace.army.mil]  
 Sent: Wednesday, March 29, 2017 12:59 PM  
 To: Schaller, Andrea <schaller.andrea@epa.gov>  
 Subject: RE: DRAFT Interagency Review HGM

I know it can, just don't think they would be able to keep from over estimating the return on investment.

Never got that study to referenced.

I've done HGM before so I get it. I agree that the scores are probably close. Some will increase with the addition 10 years, especially where some PSS or PEM have now converted to a higher order. Mine ground is troubling to me because you can have the physical characteristics shown in the variables, but I still question if the microbial activity that makes many of the functions run, and that are assumed to be working in the HGM model, are actually present and working as should under normal circumstances.

Also, if you take their narrative from recent meetings, that this is not a unique site and rarely floods, is actually contradicted with this study.

Let me know how it is received.

-----Original Message-----

From: Schaller, Andrea [mailto:schaller.andrea@epa.gov]

Sent: Wednesday, March 29, 2017 11:12 AM

To: DeLancey, George J CIV CELRL CELRD (US) <George.J.Delancey@usace.army.mil>

Subject: [Non-DoD Source] RE: DRAFT Interagency Review HGM

Agree on upfront usage. But think it can be used is capable of being used on mitigation sites. Sent you a study on recovery of sites a few months ago where they were farmed areas going back to bottomland hardwood and what the FCI change was overtime. There was a functional improvement from farming to bottomlands and could guide certainly how to look at some offsite options (given they are in kind)

On the variable scores, they are calculated then you look at the graphs in the manual to get the FCI score. I would anticipate post mine the scores are going to be lower for example those related to soils. For example, it is hard to say the clay content will be improved if they are putting the soils back on site that have only 2% clay content so at best that score would be the same as the baseline. On others like overbank flooding are 1 event happens annually it scores a 1 and is considered fully functioning, however too many events will actually drop the score. It just underscores why we need the data sheets and need to review work done. And if used in context of mitigation knowing what they are proposing and looking at the graphs to see if that is a reasonable expectation.

I noted their initial estimate showed a functional loss on site with baseline around 0.9 FCI then predicting to have a 0.56 FCI when done. I cannot stress enough with looking at data and their plan they estimated a functional loss. This is not the current narrative and evidence the NESA overestimated the backend and underestimated the front end (and in the text of the document admitted it was not based on field data).

I will say without details on why they estimated the FCI score I can't say I agree with the FCI or not. Many factors and measures measurements feed several metrics. I will say generally a decline in functions is what I would expect after mining giving the impacts to soil, hydrology and plants (all the things needed to be a wetland) and a functional loss is what their past project show. But the approach and summary provided was reasonable.

When looking at mitigation proposals you can require the design details/concept to estimate the FCI. which is what we would recommend. Certainly past performance is a consideration in fact some of the calculators also incorporate the use risk factors which will increase the amount required if there is a chance it fails.

-----Original Message-----

From: DeLancey, George J CIV CELRL CELRD (US) [mailto:George.J.Delancey@usace.army.mil]

Sent: Wednesday, March 29, 2017 10:40 AM

To: Schaller, Andrea <schaller.andrea@epa.gov>

Subject: RE: DRAFT Interagency Review HGM

Don't really have a lot to comment on. We want more info on the data collected and how certain variable were calculated. I have questions on how some of these variables were measured/scored.

I would keep comments heavy on that this sets up baseline conditions, and leaving it there, ...the use upfront for determining mitigation will be somewhat problematic based on past performances and tendency to over exaggerate the benefit of their mitigation work that we normally see. I expect that they will be as aggressive towards this approach as they were with the NSA in over estimating mitigation value. And that is something we can work on in the future with them.

-----Original Message-----

From: Schaller, Andrea [mailto:schaller.andrea@epa.gov]

Sent: Tuesday, March 28, 2017 5:21 PM

To: Devine, Lee A CIV USARMY CELRL (US) <Lee.Anne.Devine@usace.army.mil>; Ricketts, Michael S CIV USARMY CELRL (US) <Michael.S.Ricketts@usace.army.mil>; DeLancey, George J CIV CELRL CELRD (US) <George.J.Delancey@usace.army.mil>; scott\_pruitt@fws.gov; Reed, Marissa <marissa\_reed@fws.gov>

Cc: Landers, Timothy <Landers.Timothy@epa.gov>; Miller, Clay <Miller.Clay@epa.gov>; Swenson, Peter <swenson.peter@epa.gov>; Melgin, Wendy MVS External Stakeholder <melgin.wendy@epa.gov>; Eisenberg, Mindy <Eisenberg.Mindy@epa.gov>

Subject: [Non-DoD Source] DRAFT Interagency Review HGM

All

As promised EPA would like to share our draft review of the HGM done previously on the proposed Seven Hills site along with our recommendations for future HGM use. Again these are our recommendations and we understand it will be the Corps decision on how to proceed. We are available March 29, March 30 or April 3 if you have questions, comments, or would like to discuss. We are planning on sending these recommendations to the company at the end of this week or very beginning of next week.

Thank you

Andrea

Andrea Schaller

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